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Subject: FINAL REPORT

Reference: Contract 
Task Order No. 02

WILL J.

Dear Will:


The report attached is the final report prepared under Task 02 of Contract . Ten additional copies will be mailed to you in a separate package. Two copies have been forwarded to the Contracting Officer to complete the requirements of the contract.

Sincerely



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Attch.

8 copies of report "Photobleach Photography. Phase II",
30 November 1966, prepared by 

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Declass Review by NGA.

GROUP 1

EXCLUDED FROM AUTOMATIC
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AND
DECLASSIFICATION

CONFIDENTIAL

25X1 Contract No.

Task No. 02

Progress Report No. 13

Covering the period September 16 - October 14, 1966

Financial Status

Amount Authorized
Estimated Expenditures thru 10/9/66
Funds Committed
Funds Remaining

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Technical Status

Attached is a technical progress report covering
the period of 16 September to 14 October 1966. Enclosures
referred to in report are attached to original only.

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- Distribution:
- Technical Representative - three copies
 - Contracting Officer - two copies
 - File - one copy

Progress Report #13
Photobleach Photography Phase II

September 16, 1966 - October 14, 1966

Effort during the past month has been concentrated on TMI, one of the dyes initially reported last month, and on the mechanics of coating films on Mylar base. Considerable success has been achieved.

One problem that became apparent shortly after the previous report had been submitted is that the polymer used, RJ-100, becomes fragile several days after casting and cracks easily when the Mylar base is sharply bent. After screening several other polymers a new polymer was tried, and found to work satisfactorily. This polymer, an Eastman alcohol soluble butyrate, ASB, yields a smooth thin film of great flexibility.

The photographic properties of TMI in ASB are very good. Since experience with the polymer-dye-photosensitizer system has been less than two weeks, the proportions in the mixtures are far from maximized, and the best solvent system has not been determined. In spite of this, films of high quality can be made, as demonstrated by the samples enclosed with this report. One sample, a contact copy of a negative material, was exposed for five seconds to a 400 w mercury lamp, then heated for eight minutes in a 105°C oven. The other sample, a reproduction of a Kodak #2 Step Wedge, showing 13 steps, was exposed for 10 seconds, and heated for four minutes at 120°C. The speckled appearance shows the need for solvent and concentration optimization. Exposure times and heating times also need to be optimized. The samples, however, are heat locked and stable to light. One of our films has been exposed to a 1000 w projector for four hours with only minor bleaching.

Plans for October-November - Optimization of the TMI-ASB system will proceed. The writing of the final report of the year's work will be the major effort for the period.